CURRICULUM VITAE

NAME: Zhou, Xiao-Hua Andrew

EDUCATION:

Undergraduate:	Sichuan University, B.Sc. (Mathematics), 1984
Graduate:	University of Calgary, M.Sc. (Statistics), 1987 Ohio State University, Ph.D. (Biostatistics), 1991
Postdoctoral:	Harvard University, Postdoctoral fellow (Biostatistics), 1991-93

ACADEMIC AND HOSPITAL APPOINTMENTS:

1983 - 1985	Lecturer, Department of Mathematics, Sichuan University, China
1993 - 1997	Assistant Professor of Medicine, Division of Biostatistics, Indiana University School of Medicine, Indianapolis IN
1997 - 1999	Associate Professor, Division of Biostatistics, Indiana University School of Medicine, Indianapolis IN
1999 - 2002	Associate Professor with Tenure, Division of Biostatistics, Indiana University School of Medicine, Indianapolis IN
2002 - 2003	Affiliate Associate Professor, Department of Biostatistics, School of Public Health and Community Medicine, University of Washington, Seattle, WA
2003 -	Professor in research-track, Department of Biostatistics, School of Public Health and Community Medicine, University of Washington, Seattle, WA
2002 -	Director and Investigator, Biostatistics Unit, Health Services Research & Development Center of Excellence Seattle Veterans Affairs Medical Center

VISITING APPOINTMENTS:

2/2000 – 4/2000	Visiting Fellow, Centre for Mathematics and Its Applications, the Australian National University, Canberra, Australia.

| 9/2000 – 12/2000 | Visiting Faculty, Department of Biostatistics, Harvard School of Public Health, Boston, MA |

PROFESSIONAL SOCIETIES:

American Statistical Association
International Biometric Society
Institute of Mathematical Statistics
Society for Medical Decision Making

HONORS AND AWARDS:

1987	Ohio State University Fellowship
1997	Elected Fellow of Royal Statistical Society
1998	Elected Member, The International Statistical Institute
2001	Mitchell Prize, The International Society for Bayesian Analysis and Section on Bayesian Statistical Sciences of American Statistical Association (With K. Hirano, G. Imbens and D. B. Rubin.)

EDITORIAL SERVICES:

| 1999 – | Associate Editor, *Biometrics* |
| 1999 – | Editorial Board Member, *Statistics in Medicine* |

PROFESSIONAL SERVICE:

(a)   National and International

| 1996 - 1998 | Member, Traveling Course Committee, Council of Chapters, American Statistical Association. |

| 1998 - 2000 | Chair, Traveling Course Committee, Council of Chapters, American Statistical Association. |

| 2000 | Program Chair–Elect, Section on Statistics in Epidemiology, American Statistical Association. |

| 2001 | Program Chair, Section on Statistics in Epidemiology, American Statistical Association |

| 2003 | Chair–Elect, Section on Statistics in Epidemiology, American Statistical Association. |

2004	Chair, Section on Statistics in Epidemiology, American Statistical Association.
2001	Member, Program Committee for ENAR, International Biometrical Society
2001	Member, Program Committee for ICSA 2001 Applied Statistics Symposium, International Chinese Statistical Association

(b)   State and Regional

1994	Vice-President, American Statistical Association Central Indiana Chapter.
1995	President, American Statistical Association Central Indiana Chapter.

UNIVERSITY SERVICE:

1996 – 1997	Member, Statistics-Subcommittee, Committee on Medical Student Curriculum, Indiana University School of Medicine.
1997 - 2002	Member, Admission Committee, Department of Public Health, Indiana University School of Medicine.

NATIONAL STUDY SECTION ACTIVITIES:

1994	Member, Agency for Health Care Policy and Research (AHCPR) Dissertation Grant Panel
1994 - 1996	Member, Data Monitoring Board for Cooperative Study in Health Services, "Multi-Site Study of Computer Generated Reminders to Enhance Adherence to Standards of Ambulatory Care," Department of Veterans Affairs
1995	An external reviewer for a grant, dissemination study section of AHCPR
1999 - 2001	Member, Special Emphasis Panel, National Cancer Institute

2001 -2002	Member, Special Emphasis Panel, National Institute of Mental Health
2002	Ad Hoc Member, Social Sciences, Nursing, Epidemiology and Methods-5 Study Section [SNEM-5] , NIH
2003– 2007	Regular Member, Biostatistical Methods and Research Design Study Section (BMRD), NIH

Manuscript Reviewer for:

American Journal of Epidemiology
Annals of Internal Medicine
Biometrical Journal
Biometrics
Diabetes Care
Journal of American Statistical Association
Medical Decision Making
Statistics in Medicine
PharmacoEconomics
Medical Care
Biometrical Journal
Health Services and Outcomes Research Methodology
Journal of Agricultural, Biological and Environmental Statistics
Journal of Statistical Planning and Inference

GRANTS AND FELLOWSHIPS DURING THE LAST FIVE YEARS:

 As Principal Investigator on Grants for Statistical Methodology:

R29 NIH (FIRST award), $475,119 (total costs), Solution for Verification Bias in Diagnostic Tests, 09/30/94 – 09/29/99, Principal Investigator.

R03 AHCPR, $35,743 (total costs) Comparing Mean Costs Before and After a Policy Change, 09/01/97 – 03/01/99, Principal Investigator.

R01 NIH, $286,770 (total costs) Methods for Analyzing Mental Care Expenditures, 09/01/98 – 05/30/01, Principal Investigator.

R01 NIH, $661,500 (total costs) Causal Analysis of Encouragement Design Studies, 09/30/2002 – 09/30/2005, Principal Investigator.

R01 AHRQ/NIH, $476,000 (total costs) Regression Analysis of Health Care Costs, 09/30/2002 – 09/30/2005, Principal Investigator.

As Statistician on Grants for Medical Sciences:

Department of Veterans Affairs, An Integrated Model of Primary Care in Mental Health, 07/01/97 – 06/30/00, (Morris Weinberger/Ralph Swindle, M.D., P.I.), Co-Investigator.

Department of Veterans Affairs, Computerized Guidelines Enhanced by Symptoms and History: Clinical Effects, 07/01/97 – 06/30/00, (William M. Tierney, M.D., P.I.), Co-Investigator.

………, Randomized clinical trial comparing selective serotonin reuptake inhibitors in the treatment of depression in primary care Investigator (……………., Co-Investigator, 1998-2000, …………

AREA OF EXCELLENCE:

Research – Diagnostic Medicine, ROC Methodology, Categorical Data Analysis, Health Services Research, Analysis of Skewed Data, Causal Inferences, Analysis of Observational Studies, Propensity-score Methodology, and Analysis of Missing Data.

PUBLICATIONS:

(**Textbook**)

1. Zhou XH, Obuchowski NA and Obuchowski DM (2002). *Statistical Methods in Diagnostic Medicine* Wiley & Sons, New York, USA

(**Refereed Original Articles**)

Statistical Methodology

1992

1. Zhou XH, Blumenthal S. Two-stage reliability tests for new series systems. J Statis Plan Infer 1992; 33:345-366.

1993

2. Zhou XH. Maximum likelihood estimators of sensitivity and specificity corrected for verification bias. Commun Statist Theor Meth 1993; 22(11): 3177-3198.

1994

3. Morris C, Norton E, Zhou XH. Parametric duration analysis of nursing home data. (Book chapter) Case Studies in Biometry. Eds. Lange N, Billiard L, Brillinger D, Conquest L, Greenhouse J, Ryan L. Nicholas Lange and Louise Ryan eds. John Wiley & Son, Inc. 1994;231-248.

4. Zhou XH. Effect of verification bias on positive and negative predicted values. Stat Med 1994; 13:1737-1745.

1995

5. Zhou XH. Testing an underlying assumption on a ROC curve based on rating data. Med Decis Making 1995; 3:276-282.

1996

6. Zhou XH. Empirical Bayes combination of estimated areas under the ROC curves using estimating equations. Med Decis Making 1996; 16:24-28.

7. Zhou XH. A nonparametric maximum likelihood estimator for the receiver operating characteristic curve area in the presence of verification bias. Biometrics 1996; 52:299-306.

8. Zhou XH, Gastonis CA. A simple method for comparing correlated ROC curves using incomplete data. Stat Med 1996; 15:1687-1693.

9. Zhou XH, Katz BP, Holleman E, Melfi CA, Dittus R. An empirical Bayes method for studying variation in knee replacement rates. Stat Med 1996; 15:1875-1884.

1997

10. Zhou XH, Melfi CA, Hui SL. Methods for comparison of Cost Data. Ann Intern Med 1997; 127(8): 752-756.

11. Zhou XH, Gao S, Hui SL. Methods for comparing the means of two independent log-normal samples. Biometrics 1997; 53:1129-1135.

12. Zhou XH, Gao S. Confidence intervals for the lognormal mean. Stat Med 1997; 16: 783-790.

13. Gao S, Zhou XH. An empirical comparison of two semi-parametric approaches for modeling multivariate failure time data. Stat Med 1997; 16:2049-2062.

14. Hui SL, Gao S, Zhou XH, Johnston Jr CC, Lu Y, Gluer CC, Grampp S, Genant H. Optimal universal standardization of multiple measurements: Application to dual-energy X-ray absorptiometry. J Bone Miner Res 1997; 12:1463-1470.

1998

15. Zhou XH. Estimation of the lognormal mean. Stat Med 1998; 17:2251-2264.

16. Zhou XH, Higgs R. COMPROC and CHECKNORM: Computer programs for comparing accuracies of diagnostic tests using roc curves in the presence of verification. Compute Methods Programs Biomed 1998; 57:179-186.

17. Zhou XH. Estimating the mean value of occupational exposures. Am Indus Hygiene Assoc J 1998; 59:785-788.

18. Zhou XH, Rodenberg CA. Estimating an ROC curve in the presence of non-ignorable verification bias. Commun Statist Theory Meth 1998; 27(3): 635-637.

19. Zhou XH. Comparing accuracies of two screening tests in a two-phase study for dementia. JRSS, Ser. C 1998; 47:135-147.

20. Zhou XH. Comparing correlated areas under the ROC curves of two diagnostic tests In the presence of verification bias. Biometrics 1998:54, 453-470.

21. Zhou XH. Correcting for verification bias in studies of a diagnostic test's accuracy. Stat Meth Med Res 1998; 7:337-53.

22. Hui SL, Zhou XH. Evaluation of diagnostic tests without gold standards. Stat Meth Med Res 1998; 7:354-70.

1999

23. Zhou XH, Brizendine EJ, Pritz MB. Methods for combining rates from several studies. Stat Med 1999; 18:557-566.

24. Zhou XH, Castellucio P, Hui SL, Rodenberg CA. Comparing two prevalence rates in a two-phase design study. Stat Med 1999; 18:1171-1182.

25. Zhou XH, Tu W. Comparison of several independent population means when their samples contain non-zero log-normal and possibly zero observations. Biometrics 1999; 55(2): 645-651.

26. Zhou XH, Perkins AJ, Hui SL. Comparisons of software packages for generalized linear multilevel models. Am Statistician 1999; 53(3): 282-90.

27. Tu W, Zhou XH. A Wald test comparing medical costs based on log-normal distributions with zero value costs. Stat Med 1999; 18:2749-2762.

2000

28. Zhou XH, Higgs RE. Assessing the relative accuracies of two screening tests in the presence of verification bias. Stat Med 2000; 19:1697-1705.

29. Zhou XH, Gao S. One-sided confidence intervals for means of positively skewed distributions. The American Statistician 2000; 54:100-104.

30. Zhou XH, Tu W. Confidence intervals for the mean of diagnostic test charge data containing zeros. Biometrics 2000; 56:1118-1125.

31. Zhou XH, Tu W. Interval estimation for the ratio in means of log-normally distributed medical costs with zero values. Computational Statistics and Data Analysis 2000; 35(2): 201-210.

32. Hirano K, Imbens GW, Rubin DB, Zhou XH. Assessing the effect of an influenza vaccine in an encouragement design. Biostatistics 2000; 1:69-88.

33. Rodenberg CA, Zhou XH. ROC curve estimation when covariates affect the verification process. Biometrics 2000; 56: 1256-62.

34. Tu W, Zhou XH. Pairwise comparisons of the means of skewed data. Journal of Statistical Planning and Inference 2000; 88(1): 59-74.

35. Perkins SM, Tu W, Underhill MG, Zhou XH, Murray MD. The use of propensity scores in pharmacoepidemiologic research. Pharmacoepidemiology and Drug Safety 2000; 9(1): 93-101.

2001

36. Zhou XH, Li C, Gao S, Tierney WM. Methods for testing equality of means of health care costs in a paired design study. Stat Med 2001; 20:1703-1720.

37. Zhou XH, Eckert G, Tierney WM. Multiple imputation in public health research. Stat Med 2001; 20:1541-1549.

38. Zhou XH, Stroupe KT, Tierney WM. Regression analysis of health care charges with heteroscedasticity. JRSS, Ser. C 2001; 50(3): 303-312.

2002

39. Zhang DD, Zhou XH, Freeman DH, Freeman JL. A non-parametric method for the comparisons of partial areas under ROC curves and its application to large health care data sets. Stat Med 2002, 21, 701-715.

40. Zhou XH and Harezlak J. Comparison of kernel smoothing method for ROC curves. Stat Med 2002, 21: 2045 - 2055.

41. Zhou XH. Inferences about population means of health care costs. Statistical Methods in Medical Research 2002; 11: 327-339.

42. Frangakis CE, Rubin DB, Zhou XH. Individual noncompliance in clustered randomized experiments: Bayesian inference and application to an encouragement study. Biostatistics (with Discussion), 3, 147-164

43. Frangakis CE, Rubin DB, Zhou XH. Rejoinder to discussions on clustered encouragement designs with individual noncompliance: Bayesian inference with randomization, and application to advance directive forms. 3: 173-177

44. Obuchowski N, Zhou XH. Prospective studies of diagnostic test accuracy when disease prevalence is low. Biostatistics 3: 477-492.

45. Tu W, Zhou XH. A bootstrap confidence interval procedure for the treatment effect using propensity score subclassification. Health Services and Outcomes Research Methodology 3:135-147.

2003

46. Hall P, Zhou XH. Nonparametric estimation of component distributions in a multivariate mixture. Annals of Statistics, 31: 201-224.

47. Hall P, Zhou XH. Effects of smoothing on distribution approximations. In Probability, Statistics, and their Applications: Papers in Honor of Rabi Bhattacharya. Editors, K. Athreya, M. Majumdar, M. Puri, and E. Waymire. Institute of Mathematical Statistics Lecture Notes-Monograph Series Volume 41. 169-186. Institute of Mathematical Statistics, Beachwood, CA.

48. Zhou XH, Castellucio P. Nonparametric analysis for the ROC areas of two diagnostic tests in the presence of nonignorable verification bias. Journal of Statistical Planning and Inferences 115: 193-213.

49. Zhou XH and Ramsey S. Assessing the equality of means of health care costs. `Expert review of Pharmacoeconomics and Outcomes Research` 3(5), 561-567.

In press

50. ………………………………………………………………………………………………………
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51. ………………………………………………………………………………………………………
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58. ……………………………………………………………………………………….(submitted).

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61. ………………………………………………………………………………………………………
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62. ……………………………………………………………….. (Submitted).

Medical Science

1994

1. Cavallo A, Zhou XH. LHRH test in the assessment of puberty in normal children. Horm Res 1994; 41:10-15.

2. Tempany CM, Zhou XH, Zerhouni EA, Rifkin MD, Quint LA, Picoli C, Ellis J, McNeil BJ. Staging of prostate cancer with MRI; the results of Radiology Diagnostic Oncology Group project: Comparison of different techniques, including the endorectal coil. Radiology 1994; 192:47-54.

1995

3. Megibow AJ, Zhou XH, Rotterdam H, Francis IR, Zerhouni EA, Balfe DM, Weinreb JC, Aisen A, Kuhlman J, Heiken JP, Gastonis C, McNeil BJ. Pancreatic adenocarcinoma: CT versus MR imaging in the evaluation of respectability - report of the Radiology Diagnostic Oncology Group. Radiology 1995; 195:327-332.

1996

4. Trerotola SO, Johnson MS, Schauwecker DS, Davidson DD, Filo RS, Zhou XH, Eckert GJ, Dreesen RG, Calson KA, Forney M. Pulmonary emboli from pulse-spray and mechanical thrombolysis: evaluation with an animal dialysis-graft model. Radiology 1996; 200:169-176.

5. Kuhn-Fulton J, Trerotola S, Harris V, Snidow J, Johnson M, Carey M, Zhou XH, Lumeng L. Transjugular intrahepatic portosystemic shunt procedure: Efficacy of 10-mm versus 12 mm Wallstents. Radiology 1996; 199:658-664.

6. Broderick LS, Shemesh J, Wilensky RL, Zhou XH, Torres WE, Balk MA, Rogers WJ, Conces DJ Jr, Kopecky KK. Measurement of coronary artery calcium with dual-slice helical CT compared with coronary angiography: Evaluation of CT scoring methods, interobserver variations and reproducibility. Am J Roentgenol 1996; 167:439-444.

7. Pritz MB, Zhou XH, Brizendine EJ. Hyperdynamic therapy for cerebral vasospasm: a meta-analysis of 14 studies. J Neurovas Dis 1996; 1:6-8.

8. Tierney WM, Takesue BY, Vargo DL, Zhou XH. Using electronic medical records to predict mortality in primary care patients with heart disease. J Gen Intern Med 1996; 11:83-91.

9. Ferguson JA, Suelzer CJ, Eckert G, Zhou XH, Dittus RS. Risk factors for inpatient delirium tremens development. J Gen Intern Med 1996; 11:410-414.

1997

10. Ferguson JA, Tierney WM, Westmoreland GR, Mamlin LA, Segar DS, Eckert GJ, Zhou XH, Martin DK, Weinberger M. Examination of racial differences in management of cardiovascular disease. J Am Coll Cardiol 1997; 30:1707-1713.

11. Tierney WM, Murray MD, Zhou XH. Using computer-based medical records to predict mortality risk for inner-city patients with reactive airways disease. J Am Med Informatics Assoc 1997;4:313-321.

12. Gramelspacher GP, Zhou XH, Hanna MP, Tierney WM. Preferences of physicians and their patients for end-of-care. J Gen Intern Med 1997;12:346-351.

13. Park HM, Park YH, Zhou XH. Detection of thyroid remnant/metastasis without stunning: an ongoing dilemma. Thyroid 1997;7:277-279.

14. Overhage JM, Tierney WM, Zhou XH, McDonald CJ. Decreasing mistakes in drug/test monitoring using computer generated reminder: A randomized Controlled trial. JAMIA 1997;4:364-375.

1998

15. Dexter PR, Wolinsky FD, Gramelspacher GP, Zhou XH, Nienaber N, Eckert G, Waisburd M, Tierney WM. Effectiveness of computer-generated reminders to increase discussions about advance directives and completion of advance directive forms. Ann Intern Med 1998;128:102-110.

16. Barkmeier J, Trerotola SO, Wiebke E, Sherman S, Harris VJ, Snidow J, Johnson MS, Rogers W, Zhou XH. Percutanenus radiologic, surgical endoscopic, and percutaneous endoscopic gastrostomy/gastrojejunostomy; Comparative study and cost analysis. Cardiovascular and International Radiology. Cardiovasc Intervent Radiol 1998;21:324-328.

17. McMahan DA, Smith DM, Carey MA, Zhou XH. The risk of major hemorrhage for outpatients treated with warfarin. J Gen Intern Med 1998;13:311-316.

18. Murray M, Loos B, Tu W, Eckert G, Zhou XH, Tierney WM. Effect on pharmacist work

patterns of computer-based prescribing. J Am Med Inform Assoc 1998;5:546-553.

1999

19. Katz BP, Zhou XH, Gao S, Heck DA, Freund DA. Revision rates following staged and simultaneous bilateral knee replacement. JCOM 1999;6(8):30-34.

20. Swindle R, Harris L, Tu W, Zhou XH. A primary care model of depression screening, physician intervention and outcomes monitoring feedback: intervention process, three month symptoms and service utilization. International Journal in Psychiatry in Medicine 1999;28(4): 403-404.

21. Smith DM, Zhou XH, Weinbeger M, Smith F, McDonald R. Mail reminders for area-wide influenza vaccination: A randomized control trial. J Am Geriatrics Soc 1999;47:1-5

22. Murray M, Loos B, Tu W, Eckert G, Nienaber N, Zhou XH, Tierney WM. Work patterns of ambulatory care pharmacists with access to electronic guideline-based treatment suggestions. Am J Health-Systems Pharm 1999;56(3):225-232.

2000

23. Tierney WM, Harris LE, Gaskins DL, Zhou XH, Eckert GL, Bates AS, Wolinsky FD. Restricting Medicaid payments for transportation: effects on inner-city patients' health care. American Journal of the Medical Sciences 2000;319:326-333.

2001

24. Tierney WM, Dexter PR, Eckert GJ and Zhou XH: Satisfaction with discussion about advance directives. Journal of General Internal Medicine 2001;16:32-40.

25. Swindle, R, Harris L, Kroenke, K, Tu, W, Zhou, X.H. (2001). Can mental health treatment be effectively delivered in primary care? A primer for employee benefit design, decision makers and an outcome research example. In I. Farquhar, K. Summers, and A. Sorkin (Eds.) Research in human capital and development (14, 343-375). The Netherlands: Elsevier Science Ltd.

26. Kroenke K, West S, Swindle R, Gilsenan A, Eckert G, Dolor R, Stang P, Zhou XH, Hays R, Weinberger M (2001). Similar effectiveness of paroxetine, fluoxetine, and sertraline in primary care: a randomized trial.   JAMA, Vol. 286, 2947-2955.

2002

27.
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.... (in press).

28. Swindle RW, Helmy A, Rao J, Adams L, Zhou XH, Eckert G, Weinberger M. (2003) Integrating clinical nurse specialists into primary care: A randomized controlled trial for patients with depression. *International Journal of Psychiatry in Medicine* 33, 17-37.

29. Hedrick SC, Sales AEB, Sullivan J, Gray S, Tornatore J,Michael Curtis M, Zhou XH. Resident outcomes of Medicaid funded community residential care. Gerontologist 43: 473-482.

30. ....
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31. ....
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33. ....
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Submitted

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37. ……………………………………………………………………………………………………
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………………………………………………………….Submitted to Pharmacotherapy

INVITED TALKS:

1. March 23, 1997, ENAR of the International Biometric Society, Memphis, TN. Comparing accuracies of two diagnostic tests from a paired design study in the presence of verification bias.

2. November 5, 1997, the Department of Statistics, Harvard University, Cambridge, MA. Statistical methods for evaluating accuracies of diagnostic tests in the presence of verification bias.

3. August 10, 1998, ASA joint statistical meetings, Dallas, Texas. Statistical methods for evaluating accuracies of diagnostic tests in the presence of non-ignorable verification bias.

4. November 29, 1998, the Department of Biostatistics, University of Michigan, Ann Arbor, Michigan. Comparing the relative accuracies of two diagnostic tests in the presence of non-ignorable verification bias.

5. December 22, 1998, Chongqing University of Medical Science, Chongqing, China. Some New Developments in Biostatistics.

6. December 25, 1998, Sichuan Union University, Chengdu, China. Some New Developments in Biostatistics.

7. January 6, 1999, Beijing University, Beijing, China. Some New Developments in Biostatistics.

8. October 7, 1999, the Department of Statistics, Ohio State University, Columbus, OH. Assessing the accuracy of diagnostic tests in the presence of non-ignorable verification bias.

9. November 4, 1999, the Department of Mathematics, Indiana University, Bloomington, IN. Some improving confidence intervals for binomial proportions.

10. November 17, 1999, the Department of Biostatistics and Epidemiology, University of Pennsylvania, Philadelphia, PA. Assessing the relative accuracies of two diagnostic tests in the presence of non-ignorable verification bias.

11. February 28, 2000, Centre for Mathematics and Its Application, the Australian National University, Canberra, Australia. Assessing the relative accuracies of two diagnostic tests in the presence of non-ignorable verification bias.

12. July 3, 2000, International Biometric Conference, Berkeley, CA. Assessing the relative accuracies of two diagnostic tests in the presence of verification bias.

13. August 17, 2000, Joint Statistical Meetings, Indianapolis, IN. Analysis of cost data with zeros.

14. September 28, 2000, the Department of Biostatistics, Harvard University School of Public Health. Some New Statistical Methods for Analysis of Health Care Costs.

15. October 30, 2000, the Center for Statistical Science, Brown University. Analysis of Health Care Costs with additional zero values.

16. October 31, 2000, Division of Biostatistics, Yale University School of Medicine. Analysis of skewed populations with applications to health care costs.

17. November 16, 2000, the Department of Mathematics and Statistics, Boston University. Improving confidence intervals for binomial proportions.

18. November 28, 2000, the Department of Health Care Policy, Harvard Medical School. Analysis of health care costs in the presence of skewness, zeros and heteroscedasticity.

19. May 29, 2001, The Department of Primary and Ambulatory Care, Harvard Medical School. Statistical Methods for Analysis of Health Care Costs.

20. June 14, 2001, University of Washington. Kernel Smoothing of ROC Curves.

21. June 19, 2001, Mount Sinai School of Medicine. Statistical Methods for Evaluating Accuracies of Diagnostic Tests in the Presence of Verification Bias.

22. July 19, 2001, Department of Biostatistics. University of Michigan School of Public Health. New Statistical Methods for Analyses of Health Care Costs.

23. October 3, 2001, Division of Biostatistics. Washington University in St. Louis. Statistical Methods for Evaluating Accuracies of Diagnostic Tests in the Presence of Non-Ignorable Verification Bias.

24. November 13, 2001, Division of Biostatistics. Medical College of Wisconsin. Methods for Evaluating Accuracies of Diagnostic Tests in the Presence of Verification Bias.

25. March 20, 2002, Eastern North American Region of International Biometrical Society, Washington DC. New Statistical Methods for Analyses of Health Care Costs.

26. April 15, 2002, Department of Biostatistics UCLA School of Public Health. Improved Confidence Intervals for the sensitivity of a continuous-scale test at a fixed level of specificity.

27. August 15, 2002, Annual Statistical Meeting of American Statistical Association, New York City, NY. Improved Confidence Intervals for the sensitivity of a continuous-scale test at a fixed level of specificity.

28. January 6, 2003, Department of Mathematics, Sichuan University, Chengdu, China. Nonparametric estimation of component distributions in a multivariate mixture with an application to ROC curves.

29. January 7, 2003, Department of Preventive Medicine, Chongqing University of Medical Sciences, Chongqing, China. Some New Developments in Biostatistics.

30. January 9, 2003, Chinese Academy of Science, Beijing, China. Nonparametric estimation of component distributions in a multivariate mixture with an application to ROC curves.

31. April 2, 2003, International Biometric Society- ENAR, Tampa, FL. Meta-analysis of coarsely classified diagnostic data on polygraph testing.

32. October 17, 2003, International Conference on Health Policy Research, Chicago, IL. The impact of Case-mix Adjustment Methodology on Outlier Identification.